1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

heavy tumultuous waves come and go sporadically, while about the mile-wide boca the choppy sea sometimes takes the form of spire-like jets, sparting 5 or 10 feet high and breaking into aigrettes of glittering spray in most unwaterlike and wholly indescribable fashion. Dewey described the strait as "unsafe for navigation by any except the smallest class of vessels"; it is safe, indeed, only for portable and indestructible craft like the Seri balsas, which may be put off or carried ashore at will by craftsmen willing to wait for wind and tide, and unpossessed of impedimenta of a sort to be injured by wetting. Of such an environment the balsa is a natural product.

The adjunct islets of Seriland are miniatures of Tiburon in all essentials respects, save that they are without fresh water. The largest is San Esteban, a somewhat complex butte rising sharply from the waters in a nearly continuous sea-cliff recording vigorous work by storms and tides; it is occasionally visited by the Seri, chiefly in search of water-fowl and eggs. The most important of the series in Seri economy and mythology is Isla Tasane, off the mouth of Bahia Kino; it is a rugged butte some 600 feet high, rising in wave-cut cliffs on the sea side and pedimented by low spits and banks of sand toward the lee; the sand-banks are literally flocked with pelicans, while other fowl cover the flatter ledges and crowd the crannies of the pinnacle. Isla Turner is a somewhat smaller and still more rugged butte, bounded on both sides by precipitous cliffs, while Roca Foca is merely a great rock shelving upward from the storm-swept waters off the most exposed angle of Tiburon; in the crannies of the former birds nest abundantly, while the lower ledges of both are haunted by seals. Isla Patos, north of Tiburon, is a breeding-place for different water-fowl, and is especially noted as a refuge for ducks; it, too, is for the most part a rocky butte, with a sandy shelf at the eastern base. Beyond San Esteban lies the similar but smaller Isla San Lorenzo, while Isla Salsipuedes and a few other islets stretch thence northward half way to the southern point of Isla Angel de la Guarda, the second-largest island of the gulf. San Lorenzo and the smaller islets are occasionally visited by the Seri, partly for a mineral pigment used in face-painting, partly in quest of game; and they sometimes push on to the larger island to enjoy its fairly abundant game, including the easily taken iguana, amid the ruins of an ancient culture apparently akin to that of southern Mexico. Even the most frequented islets, Tasane and Patos, can be reached only by crossing miles of open sea; but in their way the Seri are as canny navigators as they are skilful boat-builders—it is their habit to hug the shore in threatening weather, to await wind and tide for hours or days together, to set out on distant journeys only when all conditions favor, and in emergency to seize inspiration from the storm like the vikings of old, and lend supernormal power to the control of their craft.

Summarily, the prevailing features of Seriland may be said to be

1: McGee E-5 (1894-1895) 1898 MU31 Seri MU31

miles in search of it, and acute enough to follow trails and indications. Naturally the meager water-supply serves as a mechanism for sorting out and preserving the strong and the acute, and for eliminating the weakly and the dull; and hence the tribe have developed a faculty, or perhaps a potentiality, of distinctive sort—the potentiality of providing against thirst-death by a reserve power in the organism itself rather than in the form of mechanical devices such as characterize higher culture. Quite similar are the relations to the resource of second importance, i. e., ordinary food. Habituated to dispensing with storage and transportation of their primary resource, and accustomed to finding food whenever forced to sufficiently active effort to obtain it, the Seri have never grasped that first principle of thrift expressed in the accumulation of food supplies; and accordingly they intuitively rely on successful fishing or chase or search of vegetal edibles for sustenance, and habitually delay effort until they are stirred into activity by the pangs of hunger. Naturally this improvidence serves as another mechanism for perpetuating families of stored vitality, and especially those able to prevail over swift or strong or cunning quarry by sustained vigor and alertness after prolonged deprivation; and the effect of this mechanism, too, is to develop a reserve power in the organism itself, in lieu of the material reserve made through thrift in higher culture. Similar in their consequences are the relations of the individual organisms to the third industry of Seriland, i. e., navigation of the gale-swept and tide-troubled waters. Even the buoyant balsa can not weather the williwaws or ride the tiderips of El Infiernillo without exercise of the utmost strength and skill on the part of the navigators; while the often persistent storms may delay for days embarkation on voyages in quest of fresh water or food. Naturally, the frequent delays and not infrequent perils of such navigation constitute a mechanism for selecting navigators possessed of reserve powers adequate to meet desperate emergencies with vigor and judgment even after enervating waits for wind and tide, while those not so well endowed are either brought up to standard in their hard training school or expelled from their class by drowning or dashing on the rocks, as may happen; so that the effect of this mechanism also is to preserve individuals and perpetuate generations characterized by reserve power, and hence to develop latent potentiality in the tribe. Now, the normal product of these and other natural mechanisms immediately reflecting environmental conditions is capacity for spurts, or for intense functioning under severe stress, despite accentuation of the stress by thirst or hunger or exhaustion, or by all combined—i. e., the effect of habitat and habit is to produce precisely such a somatic regimen as that so conspicuously displayed by the Seri folk. So the intensified activity with long intervals of inertness, simulating the habits of carnivorous and some other lower animals, and hence suggesting primitive condition, would appear to be largely a phylogenetically acquired character expressing specific adjustment to environment.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

especially as they are reflected in the primitive minds of the local tribe; and careful study of the habits and history of the Seri shows that the dangerous strait has been a potent factor in preserving tribal existence and perpetuating tribal integrity. Naturally the factor operates through navigation; for it is by means of this art that the tribesmen are able to avoid or to repel the rare invaders of either mainland or insular portions of their province, the overland pioneers from the east being stopped by the strait and the maritime explorers from south and west being unable to maintain themselves long about the stormy shores and never outfitted for pushing far toward the mainland retreats and strongholds; while by means of their light and simple craft the Seri were able to retreat or to advance across the strait as readily as over the adjacent lands to which they were wonted by the experience of generations. In their minds, indeed, El Infiernillo is the nucleus of their province. So the Seri were among the lowliest learners of that lesson of highest statecraft, that lands are not divided but united by intervening sea; and their ill-formulated and provincial notions are of much significance in their bearing on autochthonous habits and habitats.

The water craft of which the Seri make so good use is a balsa, made of three bundles of carrizal or cane lashed together alongside, measuring barely 4 feet abeam, 1½ feet in depth, and some 30 feet in length over all. A fine specimen (except for a slight injury at one end) is shown in plan and profile in plate XXXI. It was obtained near Ilom Inferno in 1895, partly towed and partly paddled thence to Embarcadero Andrade, wagoned laboriously across Desierto Encinas and on to Hermosillo, conveyed in an iron-sheathed box on two gondolas of the narrow-gage Ferrocarril de Sonora to the international frontier, and finally freighted to the United States National Museum, where (in the Mall just outside the building) the photographs reproduced in the plate were taken.

The manufacture of the balsa has never been seen by Caucasian eyes, but the processes are safely inferred from the structure, whose testimony is corroborated in part by Mashem's imperfect descriptions. The first step is the gathering of the carrizal from one of the patches growing about the three or four permanent fresh waters of Seriland, the canes being carefully selected for straightness, symmetry, and uniformity in size; these are then denuded of leaves and tassels, tied in bundles of convenient size (one seen on Tiburon contained 40 or 50 canes), and carried to the shore. In actual construction the canes are laid butt to butt, but overlapping 2 or 3 feet, the overlap being shifted this way and that with successive additions, so that the aggregate length of overlapping in the bundle reaches 10 or 12 feet—i. e., the full length of the body of the finished craft. The growing bundle is wrapped from time to time with lashings of mesquite root or magney fiber, and kept in cylindrical form by constant rolling and by means of the lashing; though the cord used for the purpose is so slender as to do little more than serve the purposes

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

ness of the cords used in construction; in fact, the outer layers of canes are so ingeniously interlocked by the insertion of their butts into interstices that each bundle holds itself together with slight aid from the exterior cording, while even the bundles themselves are held in proper relative position by the secure terminal tying rather than by the intertwined cording of the body of the craft. And the entire construction exemplifies the compartment principle to perfection; a slight injury may affect but a single joint of one out of several thousand canes, while even a severe fall on sharp rocks seldom injures more than a few score canes, and these in a few joints only. The most objectionable feature of the balsa lies in the fact that it affords little protection from the wet. The water rises freely through the reed bundles to a height depending on the load, and not only the spray but the whitecaps and combers as well dash freely over the unprotected body of the craft; but this defect is of little consequence to the hardy and nearly nude navigators, or to their scanty and practically uninjurable freight. 501

FIG. 29—Seri balsa as seen by Kerr-Pennell party.

The gracefulness and efficiency of the balsa itself stand in strong contrast with the crude methods of propulsion. According to Mashém, the craft is commonly propelled by either one or two women lying prone on the reeds and paddling either with bare hands or with large shells held in the hands; according to Hardy, the harpoon main shaft is used by turtle fishermen for paddling (and probably for poling, also); according to the Dewey picture (figure 28), the vessel is driven by a woman with a double-end paddle like that used in connection with the conventional canoe; while the expedition of 1895 found on Isla Tiburon four or five paddles rudely wrought from flotsam boards and barrel-staves, and partly hafted with rough sticks 3 or 4 feet long, but partly without handles and evidently designed to be grasped directly, like the shells of Mashém's descriptions. No trace of oars, rowlocks, sculls, rudders, or masts were found, and there is nothing to indicate the faintest notion of sails and sailing. On the whole there is no trace of well differentiated propelling devices—i. e., the craft is perfected only as a static device and not at all as a dynamic mechanism. 502 [462]

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

22 502 Despite their poverty in propelling devices, the Seri navigate their waters successfully and extensively. Perhaps the commonest function of the craft is that exercised in connection with the turtle fishery, though its chief office as a factor of general industrial economy is that of bridging El Infiernillo at the will of the roving clans. It is by means of this craft, also, that the semiceremonial pelican feasts on Tiburon are consummated; it is by the same means that Isla Patos, Isla Turner, Rocas Foca, and other insulated sources of food-supply are habitually reached; and both Mashbom's accounts and the Jesuits' records indicate that occasional voyages are pushed to San Esteban, San Lorenzo, Angel de la Guarda, and even to the Baja California coast.

Concordantly with the tribal customs, little freight is carried. The traveling family transport their poor possessions to the shore, bring out the balsa from its hiding place in the thick and thorny fog-shrubbery, launch it, lade it with a filled olla and the weapons of a man and implements of a woman, besides any chance food and clothing, and embark lightly to enjoy the semirepose of drifting before the breeze—until the rising gale brings labor still more arduous than that of scouring the spall-strewn slopes or sandy stretches of their hard motherland. Commonly the terminus of the trip is fixed largely by the chance of wind and tide; and when it is reached the party carry the craft inshore, conceal it shrewdly, and then take up their birdskin bed and walk forth in search of fresh water and meat. The successful fishing trips of course end in orgies of gorging, and when the voyage is the climax of a foray to the mainland frontier for stock-stealing, the quarters and paunches and heads hastily thrown aboard at the mainland side of the strait are carried to the rancherias for consumption at leisure; and this has happened so often that equine hoofs and bovine bones are common constituents of the middens on Tiburon.

171 501 Although measurably similar to Central American and South American types of water-craft, the Seri balsa is a notably distinct type for its region. The California natives, as well as those of the mainland of Mexico south of Rio Yaqui, used rafts made either of palm trunks or of other logs lashed alongside rather than balsas; while the far-traveling tribes used either oars or well-differentiated paddles for propulsion.

501 Briefly, the Seri balsa is remarkable for perfect adaptation to those needs of its makers shaped by their distinctive environment. It seems to approach the ideal of industrial economy—the acme of practicality—in the adjustment of materials and forces to the ends of a lowly culture; and, like the olla and harpoon and arrow, it affords an impressive example of the adjustment of artifacts to environment through the intervention of budding intelligence. Yet the chief significance of the craft would seem to reside in its vestigial character as a survival of that ovarian stage in the course of human development

1: McGee E-5 (1894-1895)1898 NU31 Ser. NU31

and discarded hoops, a broken fictile figurine, etc), was the still ruder arrowpoint represented in figure 37b (both figures are natural size). The specimens are nearly identical in material—a jet-black slaty rock with a few lighter flecks interspersed, weathering gray on long exposure (as is shown by the partly natural surface of the larger point); similar rock abounds in several easterly spurs of Sierra Seri. The smaller specimen was evidently finished and used; its features indicate fairly skilful chipping, though its general form is crude—in addition to the asymmetric shouldering, the entire point is curved laterally in such manner as to interfere with accurate archery. The larger specimen is still more strongly curved laterally, and the chipping is childishly crude; while the rough surface, clumsy tang, and unfinished air indicate that it was never used even to the extent of shafting. It is possible that the specimens may have been imported by aliens, but the probabilities are strong that they were manufactured by the Seri. No other arrowpoints and no chips or spalls suggesting stone arrow-making were found in all Seriland, though the entire party of twelve were on constant lookout for them for a month. The natural inference from these facts is that the ancestral Seri, like their descendants, were not habitual stone arrow-makers.

There is a final category of Seri artifacts which would be classed as distinctive by Caucasians on the basis of material, though they are combined with the stone artifacts by the tribesmen; it comprises arrow-points of hoop-iron or other metal, harpoon-points of nails, spikes, or wire, awls of like materials, and other metallic adjuncts to ordinary implements. The use of iron is of course post-Columbian, and its ordinary sources are wreckage and stealage. The date of introduction is unknown, and probably goes back to the days of Cortés and Mendoza; certainly the value of metal was so well understood in 1709 that when Padre Salvatierra's bilander was beached in Seriland the tribesmen at once began to break her up for the nails (ante, page 67); yet the metal is wrought cold and only with hupf and abat like the local materials, and is habitually regarded and designated as a stone. By reason of the primitive methods of working, the metals are of course available only when in small pieces or slender shapes. There is a tradition among the vaqueros of the frontier that a quantity of hoop-iron designed for use in making casks was carried away from a rancheria in the vicinity of Bacanchito during a raid in the seventies, and that this stock has ever since served to supply the Seri with material for their arrowpoints; but it is probable that the chief supply is derived from the flotsam swept into the natural drift trap of Bahia Kunkaak by prevailing winds and tidal currents, and cast up on the long sandspit of Punta Tormenta after every storm. A surprising quantity and variety of wreckage was found on this point, and thence down the coast to Punta Narragansett, by the 1895 expedition: staves and heads of casks broken up after beaching, a telegraph pole crossbar which had evidently

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

brought in a cargo of large wire, and a piece of door-frame with heavy strap-iron hinges attached with screws, were among the troves of the tribesmen within a few weeks; and it was noted that while even the hinge screws and the tacks attaching tags to the cask-heads had been extracted by breaking up the wood, the roughly forged hinges of 3 by ⅞-inch wrought iron had been abandoned after a tentative battering with cobbles, and lay among the refuse stones about the jacales.

A rough census of the stone implements of Seriland is not without interest, even though it be no more than an approximation. Some 20 or 25 habitable and recently inhabited jacales were visited, with about twice as many more in various stages of ruin, fully two-thirds of these being on the island; and at least an equal number of camps or other houseless sites were noted. About these 150 jacales and sites there were, say, 50 ahsts, ranging from nearly natural bowlders to the comparatively well-wrought specimen illustrated in plate XXXIX, and an equal number of cobbles used interchangeably as ahsts and hupfs; there were also 200 or 300 pebbles bearing traces of use as hupfs, of which about a third were worn so decidedly as to attest repeated if not regular use; while no flaked or spalled implements were observed save the two doubtful examples illustrated in plates XLVII and L, and only two chipped arrowpoints. It may be assumed that the sites visited and the artifacts observed comprise from a tenth to a fifth of those of all Seriland, in addition to, say, 75 finished hupfs habitually carried by Seri matrons in their wanderings; and it may be assumed also that 50 or 100 metallic harpoon-points and several hundred hoop-iron arrowpoints are habitually carried by the warriors and their spouses.

The most impressive fact brought out by this census is the practical absence of stone artifacts wrought by flaking or chipping in accordance with preconceived design; excepting the exceedingly rare arrowpoints there are none of these. And the assemblage of wrought stones demonstrates not merely that the Seri are practically without flaked or chipped implements, but that they eschew and discard stones edged by fracture whether naturally or through accident of use.

Summarily, the Seri artifacts of inorganic material fall into three groups, viz: (I) The large and characteristic one comprising regularly-used hupfs and ahsts, with their little-used and discarded representatives; (II) the small and aberrant group represented by chipped arrowpoints, and (III) the considerable group comprising the cold-wrought metal points for arrows and harpoons and awls—though it is to be remembered that the Seri themselves combine the second and third of these groups.

I. On reviewing the artifacts of the larger group it becomes clear (1) that they immediately reflect environment, in that they are characteristic natural objects of the territory; (2) that they come into use as implements through chance demands met by hasty selection from the

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

in a paddle blade being cut separately from the shaft, the inventive step from attaching one blade to attaching two blades would have been insignificant—in fact, would be an improvement or variation rather than an invention. The determining factor as to its adoption would probably be the type of navigation as set by water conditions. This is borne out by the distribution of the double paddle, which clings to areas of open salt-water navigation or large bays approximating open water conditions. On rivers and lakes the double paddle would rarely help and often be in the way. In this way the varying association with skin boat, wooden boat, and raft boat seems accounted for. Another factor must be size of the vessel navigated. A broad or high canoe would scarcely allow of alternate paddling on both sides. This may be the cause of the absence of the implement on the Northwest Coast. Whether the Arctic and the California-Seri occurrences are to be historically connected, must probably be left an open question for the present. An answer in favor of connection will evidently depend on the establishment of sufficient other connections to set up a favorable presumption. Until then, the considerations just mentioned make the possibility of independent origin equally plausible.

The single-bladed paddles seen by McGee (p. 219) and myself were two-piece and hafted with nails. McGee is more interested in balsa propulsion by recumbent women with hands, shells, or unhandled blades. That such crude devices were used along shore or in bays often enough to be mentioned, is wholly in line with the conspicuous Seri indifference, slovenliness, and lack of standards; but it is also obvious that real paddles being known and made, these would be the ones taken on open sea voyages of a dozen miles in a region of notably variable winds and currents. The Seri are never fools in practical matters within their compass; and they could not have acquired their indubitable navigating skill by letting their women do most of their paddling with bare hands. The one woman I saw aboard was carried as a passenger across the Infiernillo.

What is typical of Seri habits is that the harpoon shaft is also used for poling, and the harpoon cord as anchor rope, tow-line along shore, sheet rope, and for tying a blanket to a mast and pole to serve as sail; just as the bailer of a leaky skiff is an enamel-ware plate or pot employed at other times for food. The whole harpoon, including the rod-iron point, but dismounted, seems regularly to be taken along on a transport voyage.

The Seri houses I saw opposite Punta San Miguel were like those described by McGee (pp. 221-223): long, narrow, low, and open at least at one end; but they were unroofed. There was also one of double length, and another "joined obliquely"—that is, annexes occupied by younger kin and their families. The lengthwise double house was open through, though constricted at both ends and the

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302
291
614

FIG. 10. SERI BELLE
WEARING A PAINTED DESIGN SUCH AS FORMERLY WAS INDICATIVE OF THE BLOOD LINE OF A GIVEN CLAN.

264 hut, the rotting flesh and cartilage of its noisome interior to be explored and mouthed by the toddling children or gnawed by the cringing coyote-curs attached to the rancheria.

223 At certain seasons or when deemed propitious by the elders of the family, a pelican harvest was planned. Isla Tasne, some fifteen miles from Tiburon Island, is the haunt and breeding ground of the pelican that served not only as a valuable food supply for the Seris, but also as the chief source of apparel. At such seasons temporary rancherias were set up on the shores of Bahia Kino, and when conditions were favorable, or when hunger prompted them, the balsas would be launched in the evening toward Isla Tasne, the women of the party lying prone on the cane bundles and propelling the craft by paddling with their hands or with large hatchet clam shells. Reaching the island after dark, the balsas were left in charge of the women while the men and older boys, armed with clubs, crept up over the slippery, guano-covered rocks to rush on the roosting fowls and slaughter them. The

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[p. 179(B)]

123 our rough camping, and we lived more or less like the natives, along the lines of least resistance. Shaving was unknown; washing the hands took place possibly every few days---the face never; teeth never; hair combed never; dressed, always in bed and out. We did not shed our shoes. Our revolvers were our constant bedfellows and lay in the blankets next to our right hands. But the Seris have never made a move to take the least thing that was not given to them, and made not a hostile move or look. I did see a child surreptitiously wet his fingers and wipe them across the open flour sack and lick them off, but even then his mother pulled him back.

123 484 By starlight the next morning we were up again, and ate our breakfast before sun-up. We loaded most of the groceries and things in our boat, including about eighteen gallons of water. Besides ourselves, we took Luis Torres and his wife as helper and boat-steerer. This gave us a very heavy load. Chico Romero planned to take twenty gallons of water and one sack of flour and half beans and corn, and follow in his boat.

The Seri camp was a busy place, women carrying things to the boats and preparing to leave. The camp was stripped. Much water was taken in the boats to supply the families, who for the most part walked along the shore and made short cuts through the hills, planning to meet the boats at appointed places. Two other boats started with us.

The wind was dead ahead, so our sail was useless and we unshipped the mast, and three of the men took the long oars with Luis Torres at the helm and in the bow. The boat leaked quite a great deal and it [502] kept Lupe busy bailing. Chico Romero's boat was manned at the oars by two small boys about seven or nine, and he steered with a paddle. In the other boat were three men at the paddles, three children, two dogs, cans of water and baskets and cooking things.

[501] The wind kicked up quite a heavy sea for the small Seri craft, but this narrow, heavily-laden craft met the swells and floated over them gracefully, although oftentimes the water missed coming over the gunwale by an inch or two. The children laughed gleefully, showing even rows of white teeth innocent of brush and tooth powder.

123 On rounding one rocky point three deer stood outlined against the sky, and we landed three men to try and get one, Stan among them. They returned empty-handed, except Stan, who kept ashore and followed over the hills to try for game.

At noon we landed on a beautiful sandy shore laced by the green waters of the Sea of Cortez, with Tiburon Island opposite a few miles distant. Here we unloaded and built a fire of driftwood and cooked our dinner. Stan found us---without his deer---and we ate very heartily. Beans, bread, coffee. We camped here for the night in this delightful little cove, calm and protected from the strong wind outside. Green sea, purple mountains, cloudless blue sky, a little freedom from hordes of staring Indians.